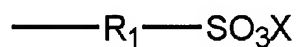


### Abstract of the Disclosure

A composite electrolyte membrane for decreasing the crossover of polar organic fuel and a fuel cell employing the membrane are provided. The composite electrolyte membrane includes a modified silica in which silicon atoms have substituents as represented by formula 1 and formula 2; and an cation exchange group-containing polymer:

Formula 1



Formula 2



wherein, R<sub>1</sub> is an alkylene group with 2-7 carbon atoms, X is a hydrogen atom or an alkali metal, R<sub>2</sub> and R<sub>3</sub> are each independently an alkylene group with 2-7 carbon atoms.